

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2009; month=7; day=17; hr=9; min=59; sec=18; ms=967;]

=====

Application No: 10528350

Version No: 2.0

Input Set:

Output Set:

Started: 2009-07-06 17:13:44.051

Finished: 2009-07-06 17:13:46.920

Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 869 ms

Total Warnings: 32

Total Errors: 0

No. of SeqIDs Defined: 74

Actual SeqID Count: 74

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (50)
W 213	Artificial or Unknown found in <213> in SEQ ID (51)
W 213	Artificial or Unknown found in <213> in SEQ ID (52)
W 213	Artificial or Unknown found in <213> in SEQ ID (53)
W 213	Artificial or Unknown found in <213> in SEQ ID (54)
W 213	Artificial or Unknown found in <213> in SEQ ID (55)
W 213	Artificial or Unknown found in <213> in SEQ ID (56)
W 213	Artificial or Unknown found in <213> in SEQ ID (57)
W 213	Artificial or Unknown found in <213> in SEQ ID (58)
W 213	Artificial or Unknown found in <213> in SEQ ID (59)
W 213	Artificial or Unknown found in <213> in SEQ ID (60)
W 213	Artificial or Unknown found in <213> in SEQ ID (61)
W 213	Artificial or Unknown found in <213> in SEQ ID (62)

Input Set:

Output Set:

Started: 2009-07-06 17:13:44.051
Finished: 2009-07-06 17:13:46.920
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 869 ms
Total Warnings: 32
Total Errors: 0
No. of SeqIDs Defined: 74
Actual SeqID Count: 74

Error code

Error Description

This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> Institute of Immunology, PLA
 Chongqing Jiachen Bioengineering Co., Ltd.
 Wu, Yuzhang
 Bian, Jiang
 Zhou, Wei
 Jia, Zhengcai
 Shi, Tongdong
 Zou, Liyun

<120> Immunogen for Preparation of Therapeutic Vaccines or Drugs for
 Treatment of Hepatitis B and the Producing Method and Use Thereof

<130> CCPT-1-24975

<140> 10528350

<141> 2009-07-06

<150> PCT/CN03/00792

<151> 2003-09-18

<150> CN 02130738.5

<151> 2002-09-18

<160> 74

<170> PatentIn version 3.5

<210> 1

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:
 CH3(CH2)14CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 1

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
 1 5 10 15

Glu Ala Ala Ala Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Gly Gly
 20 25 30

Gly Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala
35 40

<210> 2
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification:
(CH₃CH₂CH=CHCH₂CH=CH(CH₂)CH=CH(CH₂)₇CO

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 2

Xaa Ser Ser Pro Ala Arg Glu Gly Gly Gly Trp Leu Ser Leu Leu Val
1 5 10 15

Pro Phe Val Ser Ser Ser Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro
20 25 30

Ala

<210> 3
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification: CO,
CH₃CH₂CH=CHCH₂CH=CH(CH₂)₇CO₇

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 3

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Gly Gly Gly Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala
20 25 30

<210> 4

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:

CH₃(CH₂)₁₄CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 4

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Ala Ala Ala Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Gly Gly
20 25 30

Gly Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr
35 40

<210> 5

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:

CH₃(CH₂)₁₄CO

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 5

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Ala Ala Ala Ser Ile Val Ser Pro Phe Ile Pro Leu Leu Gly Gly
20 25 30

Gly Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala
35 40

<210> 6
<211> 14
<212> PRT
<213> Unknown

<220>
<223> Th cell epitope from tetanus toxoid or variant species thereof

<400> 6

Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu
1 5 10

<210> 7
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Th cell epitope from tetanus toxoid or variant species thereof

<400> 7

Pro Ala Asp Arg Glu
1 5

<210> 8
<211> 8
<212> PRT
<213> Hepatitis B virus

<400> 8

Pro Leu Gly Phe Phe Pro Asp His
1 5

<210> 9
<211> 15
<212> PRT
<213> Hepatitis B virus

<400> 9

Met Gln Trp Asn Ser Thr Ala Leu His Gln Ala Leu Gln Asp Pro
1 5 10 15

<210> 10
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 10

Ser Ile Leu Ser Lys Thr Gly Asp Pro Val
1 5 10

<210> 11
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 11

Val Leu Gln Ala Gly Phe Phe Leu Leu
1 5

<210> 12
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 12

Phe Leu Leu Thr Arg Ile Leu Thr Ile
1 5

<210> 13
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 13

Phe Leu Gly Gly Thr Pro Val Cys Leu
1 5

<210> 14
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 14

Leu Leu Cys Leu Ile Phe Leu Leu Val
1 5

<210> 15
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 15

Leu Leu Asp Tyr Gln Gly Met Leu Pro Val
1 5 10

<210> 16
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 16

Trp Leu Ser Leu Leu Val Pro Phe Val
1 5

<210> 17
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 17

Gly Leu Tyr Ser Ser Thr Val Pro Val
1 5

<210> 18
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 18

Lys Val Leu His Lys Arg Thr Leu Gly Leu
1 5 10

<210> 19
<211> 9

<212> PRT
<213> Hepatitis B virus

<400> 19

Val Leu His Lys Arg Thr Leu Gly Leu
1 5

<210> 20
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 20

Gly Leu Ser Ala Met Ser Thr Thr Asp Leu
1 5 10

<210> 21
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 21

Cys Leu Phe Lys Asp Trp Glu Glu Leu
1 5

<210> 22
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 22

Val Leu Gly Gly Cys Arg His Lys Leu Val
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 23

Phe Leu Pro Ser Asp Phe Phe Pro Ser Val
1 5 10

<210> 24
<211> 11
<212> PRT
<213> Hepatitis B virus

<400> 24

Ser Thr Leu Pro Glu Thr Thr Val Val Arg Arg
1 5 10

<210> 25

<211> 9

<212> PRT

<213> Hepatitis B virus

<400> 25

Glu Tyr Leu Val Ser Phe Gly Val Trp
1 5

<210> 26

<211> 9

<212> PRT

<213> Hepatitis B virus

<400> 26

Gly Leu Tyr Ser Ser Thr Val Pro Val
1 5

<210> 27

<211> 9

<212> PRT

<213> Hepatitis B virus

<400> 27

Gly Leu Ser Arg Tyr Val Ala Arg Leu
1 5

<210> 28

<211> 9

<212> PRT

<213> Hepatitis B virus

<400> 28

Phe Leu Leu Ser Leu Gly Ile His Leu
1 5

<210> 29

<211> 10

<212> PRT

<213> Hepatitis B virus

<400> 29

Ile Leu Arg Gly Thr Ser Phe Val Tyr Val
1 5 10

<210> 30
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 30

Ser Leu Tyr Ala Asp Ser Pro Ser Val
1 5

<210> 31
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 31

Lys Tyr Thr Ser Phe Pro Trp Leu Leu
1 5

<210> 32
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 32

Ser Leu Tyr Ala Asp Ser Pro Ser Val
1 5

<210> 33
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 33

Ala Leu Met Pro Leu Tyr Ala Cys Ile
1 5

<210> 34
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 34

Tyr Met Asp Asp Val Val Leu Gly Ala

1 5

<210> 35
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 35

Trp Ile Leu Arg Gly Thr Ser Phe Val
1 5

<210> 36
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 36

Lys Leu His Leu Tyr Ser His Pro Ile
1 5

<210> 37
<211> 9
<212> PRT
<213> Hepatitis B virus

<400> 37

Phe Thr Gln Ala Gly Tyr Pro Ala Leu
1 5

<210> 38
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 38

Ser Leu Asn Phe Leu Gly Gly Thr Thr Val
1 5 10

<210> 39
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 39

Leu Leu Asp Tyr Gln Gly Met Leu Pro Val
1 5 10

<210> 40
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 40

Leu Leu Val Pro Phe Val Gln Trp Phe Val
1 5 10

<210> 41
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 41

Gly Leu Ser Pro Thr Val Trp Leu Ser Val
1 5 10

<210> 42
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 42

Leu Leu Pro Ile Phe Phe Cys Leu Trp Val
1 5 10

<210> 43
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 43

Tyr Val Asn Thr Asn Met Gly
1 5

<210> 44
<211> 12
<212> PRT
<213> Hepatitis B virus

<400> 44

Tyr Val Asn Thr Asn Met Gly Leu Lys Ser Glu Gln
1 5 10

<210> 45

<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 45

Ser Ile Leu Ser Lys Thr Gly Asp Pro Val
1 5 10

<210> 46
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 46

Gly Leu Ser Pro Thr Val Trp Leu Ser Val
1 5 10

<210> 47
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 47

Ser Ile Val Ser Pro Phe Ile Pro Leu Leu
1 5 10

<210> 48
<211> 11
<212> PRT
<213> Hepatitis B virus

<400> 48

Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala
1 5 10

<210> 49
<211> 10
<212> PRT
<213> Hepatitis B virus

<400> 49

Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr
1 5 10

<210> 50
<211> 35
<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₀CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 50

Xaa Ser Ser Pro Ala Asp Arg Glu Gly Gly Gly Ser Leu Asn Phe Leu
1 5 10 15

Gly Gly Thr Thr Val Ser Ser Ser Asp Pro Arg Val Arg Gly Leu Tyr
20 25 30

Phe Pro Ala
35

<210> 51

<211> 43

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₄CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 51

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Ala Ala Ala Leu Leu Cys Leu Ile Phe Leu Leu Val Gly Gly Gly
20 25 30

Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala
35 40

<210> 52
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₆CO

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 52

Xaa Ser Ser Pro Ala Asp Arg Glu Ala Ala Ala Leu Leu Asp Tyr Gln
1 5 10 15

Gly Met Leu Pro Val Gly Gly Gly Asp Pro Arg Val Arg Gly Leu Tyr
20 25 30

Phe Pro Ala
35

<210> 53
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₇CH=CH(CH₂)-CO, CH₃CH₂CH=CHCH₂CH=CH(CH₂)₇CO₇

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 53

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Gly Gly Gly
20

<210> 54

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Phe with the following N-terminal modification:

CH₃CH₂CH=CHCH₂CH=CH(CH₂)CH=CH(CH₂)₇CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 54

Xaa Leu Pro Ser Asp Phe Phe Pro Ser Val Ala Ala Ala Asp Pro Arg
1 5 10 15

Val Arg Gly Leu Tyr Phe Pro Ala
20

<210> 55

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:

CH₃CH₂CH=CHCH₂CH=CH(CH₂)CH=CH(CH₂)₇CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 55

Xaa Ser Ser Pro Ala Asp Arg Glu Gly Gly Gly Trp Leu Ser Leu Leu
1 5 10 15

Val Pro Phe Val Ser Ser Ser Asp Pro Arg Val Arg Gly Leu Tyr Phe
20 25 30

Pro Ala

<210> 56

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>

<221> MISC_FEATURE

<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₄CO

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<400> 56

Xaa Ser Ser Pro Ala Asp Arg Glu Ala Ala Ala Phe Leu Pro Ser Asp
1 5 10 15

Phe Phe Pro Ser Val Gly Gly Gly Asp Pro Arg Val Arg Gly Leu Tyr
20 25 30

Phe Pro Ala
35

<210> 57

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen

<220>
 <221> MISC_FEATURE
 <223> Xaa is Lys with the following N-terminal modification:
 CH₃(CH₂)₁₄CO

 <220>
 <221> misc_feature
 <222> (1)..(1)
 <223> Xaa can be any naturally occurring amino acid

 <400> 57

Xaa Ser Ser Pro Ala Asp Arg Glu Gly Gly Gly Leu Leu Val Pro Phe
 1 5 10 15

Val Gln Trp Phe Val Ser Ser Ser Asp Pro Arg Val Arg Gly Leu Tyr
 20 25 30

Phe Pro Ala
 35

<210> 58
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Immunogen

<220>
 <221> MISC_FEATURE
 <223> Xaa is Lys with the following N-terminal modification:
 CH₃(CH₂)₁₄CO

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> Xaa can be any naturally occurring amino acid

<400> 58

Xaa Ser Ser Pro Ala Asp Arg Glu Ala Ala Ala Gly Leu Ser Pro Thr
 1 5 10 15

Val Trp Leu Ser Val Gly Gly Gly Asp Pro Arg Val Arg Gly Leu Tyr
 20 25 30

Phe Pro Ala
 35

<210> 59
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₆CO

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 59

Xaa Ser Ser Pro Ala Asp Arg Glu Ala Ala Ala Leu Leu Pro Ile Phe
1 5 10 15

Phe Cys Leu Trp Val Gly Gly Gly Asp Pro Arg Val Arg Gly Leu Tyr
20 25 30

Phe Pro Ala
35

<210> 60
<211> 41
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogen

<220>
<221> MISC_FEATURE
<223> Xaa is Lys with the following N-terminal modification:
CH₃(CH₂)₁₆CO

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa can be any naturally occurring amino acid

<400> 60

Xaa Ser Ser Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr
1 5 10 15

Glu Ala Ala Ala Tyr Val Asn Thr Asn Met Gly Gly Gly Gly Asp Pro
20 25 30

Arg Val Arg Gly Leu Tyr Phe Pro Ala
35 40

<210> 61

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Immunogen